CSCE 330 Fall 2003

QUIZ 6

Assigned Thursday, 03-09-18

1. Recall that, in denotational semantics, the *state* is a triple `<mem, i, o>`.

   (a) Which component(s) of the state are changed by a *read* instruction?
   Answer: mem, i

   (b) Which component(s) of the state are changed by a *write* instruction?
   Answer: o

   (c) Which component(s) of the state are changed by an assignment?
   Answer: mem

2. Consider the simple language described in class in the lectures on denotational semantics. Assuming the absence of errors, complete the denotational semantics of the while-do-od loop, by identifying what *mystery* is.

   $dsem_{DO}$(while B do SL od, s) = *mystery* if $dsem_{BOOL}$(B, s) = false, otherwise
   $dsem_{DO}$(while B do SL od, s) = $dsem_{DO}$(while B do SL od, $dsem_{DO}$(SL, s))

   Answer: s